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EXAMINER	
NORTON, JENNIFER L	

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/823,465	RED ET AL.	
	Examiner	Art Unit	
	Jennifer L. Norton	2121	

-- The MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a **Final Office Action** in response to the Amendment received on 17 April 2006. Claims 1-31 are pending in this application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No.: 6,499,054 (hereinafter Hesslink) in view of U.S. Patent No.: 6,028,412 (hereinafter Shine).

3. As per claim 1, Hesslink teaches to a method for controlling electronic devices through a host device, the method comprising:

establishing electronic communications (Fig. 1A, element 62) between the host device (Fig. 1A, element 60) and a controlled device (col. 3 lines 37-38 and 41-43; and Fig. 1A, element 64);

generating, at the host device, control input for the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38); and

sending the control input to the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38).

Hesslink does not expressly teach to assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n and sending the control input to the controlled device at the assigned control frequency.

Shine teaches to assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n (col. 1, lines 62-65 and col. 2, lines 12-26) and sending the control input to the controlled device at the assigned control frequency (col. 3, lines 21-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n and sending the control input to the controlled device at the assigned control frequency to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a

single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

4. As per claim 2, Hesslink as set forth above teaches receiving at the host device, output from the controlled device in response to the control input (col. 3, line 67 and col. 4, lines 1-14).

5. As per claim 3, Hesslink as set forth above teaches establishing real-time (col. 2, lines 10-12) electronic communications over a network (col. 3, lines 41-50, 67, col. 4, lines 1-10 and Fig. 1A, elements 62).

6. As per claim 4, Hesslink as set forth above teaches to establishing real-time electronic communications (col. 2, lines 10-12) with a plurality of controlled devices (Fig. 1A elements 64 and 70).

7. As per claim 5, Hesslink does not expressly teach N is independently determined for each controlled device of the plurality of the controlled devices.

Shine teaches N is independently determined for each controlled device of the plurality of the controlled devices (col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include N is independently determined for each controlled device of the plurality of the controlled devices to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22) in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

8. As per claim 6, Hesslink does not expressly teach the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

Shine teaches to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

9. As per claim 7, Hesslink as set forth above teaches initiating a control loop process on the host device when electronic communication is established with a controlled device (col. 3, line 67, col. 4, lines 1-14 and Fig. 1B, elements 100, 110, 112 and 120).

10. As per claim 8, Hesslink as set forth above teaches accessing the host device from a remote computing device (Fig. 1B, element 118) via the Internet (col. 3, lines 6-8 and Fig. 1B, element 50).

11. As per claim 9, Hesslink as set forth above teaches providing information relating to the controlled device to a user at the remote computing device (col. 4, lines 11-14 and Fig. 1B, element 118).

12. As per claim 10, Hesslink as set forth above teaches receiving user input at the host device from the user at the remote computing device, wherein the input relates to the controlled device (col. 4, lines 16-18 and Fig. 1B, element 114).

13. As per claim 11, Hesslink teaches to a computing device configured for controlling electronic devices, the computing device comprising:

a processor (col. 3, lines 8-12);

memory in electronic communication with the processor (col. 3, lines 8-11); and

executable instructions executable by the processor (col. 3, lines 25-27), wherein the executable instructions are configured to implement a method comprising:

establishing electronic communications (Fig. 1A, element 62) between the computing device (Fig.1A, element 10 and 60) and a controlled device (col. 3, lines 37-38 and 41-43);

generating, at the computing device, control input for the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38); and

sending the control input to the controlled device at the assigned control frequency (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38).

Hesslink does not expressly teach to assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n and sending the control input to the controlled device at the assigned control frequency.

Shine teaches to assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n (col. 1, lines 62-65 and col. 2, lines 12-26) and sending the control input to the controlled device at the assigned control frequency (col. 3, lines 20-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n and sending the control input to the controlled device at the assigned control frequency to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very

cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

14. As per claim 12, Hesslink as set forth above teaches the method further comprises receiving, at the computing device, output from the controlled device in response to the control input (col. 3, line 67 and col. 4, lines 1-14).

15. As per claim 13, Hesslink as set forth above teaches establishing electronic communications comprises establishing real-time (col. 2, lines 10-12) electronic communications over a network (col.3, lines 41-50, 67, col. 4, lines 1-10 and Fig. 1A, elements 62).

16. As per claim 14, Hesslink as set forth above teaches the method further comprises establishing real-time (col. 2, lines 10-12) electronic communications with a plurality of controlled devices (Fig. 1A, elements 64 and 70).

Hesslink does not expressly teach assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

Shine teaches to assigning a discrete control frequency for a controlled device using the 2^N time slicing algorithm, where N is a non-negative integer (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

17. As per claim 15, Hesslink does not expressly teach N is independently determined for each controlled device of the plurality of controlled devices.

Shine teaches N is independently determined for each controlled device of the plurality of controlled devices (col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to modify the teaching of Hesslink to include N is independently determined for each controlled device of the plurality of the controlled devices to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

18. As per claim 16, Hesslink does not expressly teach the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

Shine teaches to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to modify the teaching of Hesslink to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

19. As per claim 17, Hesslink as set forth above teaches initiating a control loop process on the computing device when electronic communication is established with a controlled device (col. 3, line 67, col. 4, lines 1-14, Fig. 1B and elements 100, 110, 112 and 120).

20. As per claim 18, Hesslink does not expressly teach initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor.

Shine teaches to initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor (col. 3, lines 18-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor because the method is well suited to governing motor speeds and in particular for controlling stepper motors, including full step, half step and micro-steppers. Similarly, the speed of a DC motor can be regulated with this method by providing the controlling frequency that governs the rotational speed of the armature (Shine: col. 3, lines 35-41). In addition the method can be implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

21. As per claim 19, Hesslink as set forth above teaches accessing the computing device from a remote computing device (Fig.1B, element 118) via the Internet (col. 3, lines 6-8 and Fig. 1B, element 50).

22. As per claim 20, Hesslink as set forth above teaches providing information relating to the controlled device to a user at the remote computing device (col. 4, lines 11-14 and Fig. 1B, element 118).

23. As per claim 21, Hesslink as set forth above teaches the method further comprises receiving user input at the computing device from the user at the remote computing device, wherein the input relates to the controlled device (col. 4, lines 16-18 and Fig. 1B, element 114).

24. As per claim 22, Hesslink teaches to a computer-readable medium for storing program data, wherein the program data comprises executable instructions for implementing a method in a computing device for controlling electronic devices, the method comprising:

establishing electronic communications (Fig. 1A, element 62) between the computing device (Fig. 1A, element 60) and a controlled device (col. 3, lines 37-38 and 41-43; and Fig. 1A, element 64);

generating, at the computing device, control input for the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38); and

sending the control input to the controlled device (abstract, lines 1-4 and col. 3, lines 24-26 and 37-38).

Hesslink does not expressly teach assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n and sending the control input to the controlled device at the assigned control frequency.

Shine teaches to assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n (col. 1, lines 62-65 and col. 2, lines 12-26) and sending the control input to the controlled device at the assigned control frequency (col. 3, lines 21-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include assigning a control frequency for the controlled device using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^n and sending the control input to the controlled device at the assigned control frequency to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very

cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

25. As per claim 23, Hesslink as set forth above teaches the method further comprises receiving, at the computing device, output from the controlled device in response to the control input (col. 3, line 67 and col. 4, lines 1-14).

26. As per claim 24, Hesslink as set forth above teaches establishing real-time (col. 2, lines 10-12) electronic communications over a network (col. 3, lines 41-50, 67, col. 4, lines 1-10 and Fig. 1A, elements 62).

27. As per claim 25, Hesslink as set forth above teaches to establishing real-time (col. 2, lines 10-12) electronic communications with a plurality of controlled devices (Fig. 1A, elements 64 and 70).

Hesslink does not expressly teach to assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

Shine teaches to assigning a discrete control frequency for a controlled device using the 2^N time slicing algorithm, where N is a non-negative integer (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the teaching of Hesslink to include assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

28. As per claim 26, Hesslink does not expressly teach N is independently determined for each controlled device of the plurality of controlled devices.

Shine teaches N is independently determined for each controlled device of the plurality of the controlled devices (col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to modify the teaching of Hesslink to include N is independently determined for each controlled device of the plurality of the controlled devices to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

29. As per claim 27, Hesslink does not expressly teach the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

Shine teaches to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device (col. 1, lines 62-65 and col. 2, lines 12-26).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to modify the teaching of Hesslink to the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device to simplify the comparison between the stored trigger value and the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set (Shine: col. 2, lines 15-22); in addition to being implemented very cheaply on commercially available integrated circuits and embedded controllers (Shine: col. 3, lines 45-48).

30. As per claim 28, Hesslink teaches as set forth above the method further comprises initiating a control loop process on the computing device when electronic communication is established with a controlled device (col. 3, line 67, col. 4, lines 1-14 and Fig. 1B, elements 100, 110, 112 and 120).

31. As per claim 29, Hesslink as set forth above teaches accessing the computing device from a remote computing device (Fig. 1B, element 118) via the Internet (col. 3, lines 6-8 and Fig. 1B, element 50).

32. As per claim 30, Hesslink as set forth above teaches providing information relating to the controlled device to a user at the remote computing device (col. 4, lines 11-14 and Fig. 1B, element 118).

33. As per claim 31, Hesslink as set forth above teaches receiving user input at the computing device from the user at the remote computing device, wherein the input relates to the controlled device (col. 4, lines 16-18 and Fig. 1B, element 114).

Response to Arguments

34. Applicant's arguments, see Remarks pgs. 8-10, filed 17 April 2006 with respect to the rejection(s) of claims 1-31 under 35 U.S.C. 103 (a) have been fully considered but they are not persuasive.

With respect to claims 1, 11, and 22, the Shine reference teaches to the limitation "each control frequency that is assigned has a value of 2^n" (col. 1, lines 62-65 and col. 2, lines 12-26). Shine states,

"Preferably, the second iterative value is set by the stored trigger value, whereby the stored trigger value is at least that in Hertz of a pre-determined interrupt frequency at which the first and second iterative loops are driven. More preferably, **both the stored trigger value and interrupt frequency are a value 2^n, where n is a positive integer**. This simplifies the comparison between the stored trigger value and

the stored accumulator value as the binary value of the stored trigger value is represented by a single bit in a register being set and exceeding the trigger value is also represented by a single bit being set. In this case, an iterative decrement equal to the stored trigger value is subtracted from the stored accumulator value for each iteration of the second iterative loop or **if the stored trigger value is 2^n**, then a single bit is cleared in a register."

In response to applicant's arguments, "that these figures (reference to Fig. 8-16 of Shine) show frequency targets that are not of the value 2^n, see MPEP 2123 II. which states, "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments."

With respect to claim 2-10, 12-21 and 23-31, these claims stand rejected under 35 U.S.C (a) as set forth above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to a system for transmitting data from one computing device to other devices.

U.S. Patent No. 5,975,736 discloses a control system having improved reliability and extendibility for semiconductor processing equipment.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Norton whose telephone number is 571-272-3694. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony Knight
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Art Unit 2121